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Pui Lun Lau

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HUNTON & WILLIAMS LLP
INTELLECTUAL PROPERTY DEPARTMENT
1900 K STREET, N.W.
SUITE 1200
WASHINGTON, DC 20006-1109

EXAMINER

BRUCKART, BENJAMIN R

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|---|-------------------------------------|--|
| Office Action Summary | Application No. 09/708,492 | Applicant(s) LAU, PUI LUN | |
| | Examiner BENJAMIN R. BRUCKART | Art Unit 2446 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 September 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 and 33-50 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-31, 33-50 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 July 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Detailed Action

Status of Claims:

Claims 1-31, 33-50 are pending in this Office Action.

Claim 32 remains cancelled.

Response to Arguments

Applicant's arguments filed 9/18/08 have been fully considered but are found not persuasive. See remarks below.

Claim Objections

Claims 47-49 are objected to as being dependent on claim I (the letter). The examiner is treating this as a typo in which the claims are still dependent from claim 1, as they were in the previous action.

Applicant's invention as claimed:

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 1, 7, 11-20, 22-31, 33-50 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,850,531 by Rao et al.

Regarding claim 1,

a multiple port unit adapted for coupling one or more computers to multiple peripheral devices over a network (Rao: col. 4, lines 54-67; Fig. 1), said multiple port unit comprising:

plural network ports, each of said network ports being configured to couple the multiple port unit to a computer over a respective network link (Rao: col. 5, lines 8-24); and

plural communication serial ports, each of said communication serial ports being configured to couple the multiple port unit to a peripheral device (Rao: col. 5, lines 45-52); and

a control unit to interrogate the network links (Rao: col. 2, lines 40-49) and to communicatively couple said communication serial ports to a selected one of said network ports based on the interrogation of the network links (Rao: col. 8, lines 53- col. 9, line 26), the control unit further determining whether it is time to interrogate the network links (Rao: col. 8, lines 53- col. 9, line 26).

Regarding claim 7, a multiple port unit as recited in claim 1, where said control unit is configured to interrogate the network links using a network carrier signal (Rao: col. 8, lines 53- col. 9, line 26).

Regarding claim 46, a multiple port unit as recited in claim 1, wherein the interrogation is effected by the control unit sending a packet (Rao: col. 9, lines 1-26).

Regarding claim 47, a multiple port unit as recited in claim 1, wherein the interrogation of the network links relates to whether a particular network link is working properly (Rao: col. 8, lines 53- col. 9, line 26).

Regarding claim 48, a multiple port unit as recited in claim 1, wherein the control unit being further configured to determine whether it is time to interrogate the network links includes a determination if a preset time for switching network links has elapsed (Rao: col. 27, lines 20-29).

Regarding claim 49, a multiple port unit as recited in claim 1, wherein said control unit identifies a network link operating properly based on the interrogation (Rao: col. 8, lines 53- col. 9, line 26).

Regarding claim 50, a multiple port unit as recited in claim 49, wherein said control unit communicatively couples said communications serial ports to the selected one of said network ports to avoid the network link not operating properly (Rao: col. 9, lines 15-26).

Regarding claim 11,
a computer architecture (Rao: Fig. 1) comprising:
plural computers (Rao: Fig. 7);
plural peripheral devices (Rao: Fig. 7); and
a multiple port unit having plural network ports (Rao: col. 5, lines 8-24), plural serial ports (Rao: col. 5, lines 45-52), and a control unit (Rao: col. 2, lines 40-49), each of said network ports being coupled to one of said plural computers over a respective network link (Rao: col. 8,

Art Unit: 2446

lines 53- col. 9, line 26), each of said communication serial ports being coupled to a peripheral device (Rao: col. 8, lines 53- col. 9, line 26), said control unit interrogating the network links and to communicatively coupling said communication serial ports to a selected one of said network ports based on the interrogation of the network links (Rao: col. 8, lines 53- col. 9, line 26).

Regarding claim 12, a computer architecture as recited in claim 11, wherein said control unit is configured to interrogate each of the plural computers and to control the peripheral devices based on the interrogation of the computers (Rao: col. 8, lines 53- col. 9, line 26).

Regarding claim 13, a computer architecture as recited in claim 12, wherein said control unit interrogates the computers over each of the network links in an alternating manner (Rao: col. 27, lines 20-29).

Regarding claim 14, a computer architecture as recited in claim 13, wherein said network ports comprise Ethernet ports (Rao: col. 5, lines 18-24).

Regarding claim 15, a computer architecture as recited in claim 14, wherein said communication serial ports comprise serial interfaces (Rao: col. 5, lines 45-52).

Regarding claim 16, a computer architecture as recited in claim 14, further comprising two redundant power supplies (Rao: col. 8, lines 24-25).

Regarding claim 17, a computer architecture as recited in claim 11, wherein said control unit is configured to interrogate said network links using a network carrier signal (Rao: col. 8, lines 53- col. 9, line 26).

Art Unit: 2446

Regarding claim 18, a computer architecture as recited in claim 12, wherein said control unit is configured to interrogate said computers using Packet Internet Groper (Rao: col. 9, lines 8-14).

Regarding claim 19, a computer architecture as recited in claim 12, comprising two network ports and 8 communications ports (Rao: col. 5, lines 17-52).

Regarding claim 20, a computer architecture as recited in claim 12, wherein said peripheral devices are intelligent electronic devices (Rao: col. 5, lines 17-52; computers, ISP, content server farms).

Regarding claim 22,
a multiple port unit adapted for coupling one or more computers to multiple intelligent electronic devices over a network (Rao: col. 4, lines 54-67; Fig. 1), said multiple port unit comprising:

two Ethernet ports, each of said Ethernet ports being configured to couple the multiple port unit to a computer over a respective Ethernet link (Rao: col. 5, lines 8-24); and

plural serial ports, each of said serial ports being configured to couple the multiple port unit to an intelligent electronic device (Rao: col. 5, lines 45-52); and

a control unit to interrogate the Ethernet links (Rao: col. 2, lines 40-49) and to communicatively couple said serial ports to a selected one of said Ethernet ports based on the interrogation of the Ethernet links (Rao: col. 8, lines 53- col. 9, line 26), the control unit being further determining whether it is time to interrogate the Ethernet links (Rao: col. 8, lines 53- col. 9, line 26), the interrogation of the Ethernet links including:

the control unit sending out a packet (Rao: col. 8, line 55- col. 9, line 26), and
the control unit then waiting for a reply, in response to the sent packet (Rao: col. 8, line 55- col. 9, line 26).

Art Unit: 2446

Regarding claim 23, a multiple port unit as recited in claim 22, wherein said control unit is configured to interrogate each of the plural the computers and to designate a selected one of the computers as an active computer to control the intelligent electronic devices based on the interrogation of the computers (Rao: col. 8, lines 53- col. 9, line 26).

Regarding claim 24, a multiple port unit as recited in claim 23, wherein said control unit interrogates the computers over each of the Ethernet links in an alternating manner (Rao: col. 27, lines 20-29).

Regarding claim 25, a multiple port unit as recited in claim 24, further comprising two redundant power supplies (Rao: col. 8, lines 24-25).

Regarding claim 26, a multiple port unit as recited in claim 22, wherein said control unit is configured to interrogate the Ethernet links using an Ethernet carrier signal (Rao: col. 8, lines 53- col. 9, line 26).

Regarding claim 27, a multiple port unit as recited in claim 23, wherein said control unit is configured to interrogate the computers using Packet Internet Groper (Rao: col. 9, lines 8-14).

Regarding claim 28, a multiple port unit as recited in claim 23, comprising 8 serial ports (Rao: col. 5, lines 17-52).

Regarding claim 29, a multiple port unit as recited in claim 22, further comprising a data bus coupled to said control unit, said Ethernet ports, and said serial ports (Rao: col. 6, lines 11-35).

Regarding claim 30,

Art Unit: 2446

a multiple port unit adapted for coupling one or more computers to multiple peripheral devices over a network (Rao: col. 4, lines 54-67; Fig. 1), said multiple port unit comprising:

plural network ports, each of said network ports being configured to couple the multiple port unit to a computer over a respective network link (Rao: col. 5, lines 8-24); and

plural communication serial ports, each of said communication serial ports being configured to couple the multiple port unit to a peripheral device (Rao: col. 5, lines 45-52); and control means for interrogating the network links and communicatively coupling said serial ports to a selected one of said network ports based on the interrogation of the network links (Rao: col. 2, lines 40-49); and

wherein said control means interrogates plural computers over each of the network links in an alternating manner (Rao: col. 27, lines 20-29).

Regarding claim 31, a multiple port unit as recited in claim 30, wherein said network ports are configured to couple the multiple port unit to plural computers and wherein said control means comprises computer interrogating means for interrogating each of the plural computers designating a selected one of the computers as an active computer to control the peripheral devices based on the interrogation of the computers (Rao: col. 8, lines 53- col. 9, line 26).

Regarding claim 33, a multiple port unit as recited in claim 31, wherein said network communication serial ports comprise Ethernet ports (Rao: col. 5, lines 18-24).

Regarding claim 34, a multiple port unit as recited in claim 33, wherein said communication serial ports comprise serial ports (Rao: col. 5, lines 45-52).

Regarding claim 35, a multiple port unit as recited in claim 33, further comprising two redundant power supplies (Rao: col. 8, lines 24-25).

Regarding claim 36, a multiple port unit as recited in claim 30, wherein said control means comprises means for detecting a network carrier signal (Rao: col. 8, lines 53- col. 9, line 26).

Regarding claim 37, a multiple port unit as recited in claim 31, wherein said computer interrogation means comprises Packet Internet Groper (Rao: col. 9, lines 8-14).

Regarding claim 38, a multiple port unit as recited in claim 30, further comprising a data bus coupled to said control mean, said network ports and said communication serial ports (Rao: col. 6, lines 11-35

Regarding claim 39, a multiple port unit as recited in claim 31, comprising two network ports and 8 communications ports (Rao: col. 5, lines 17-52).

Regarding claim 40,

a method of coupling plural peripheral devices to computers (Rao: col. 4, lines 54-67; Fig. 1), said method comprising the steps of:

interrogating the status of plural network connections with a control unit of a multiple port unit having plural network ports coupled to the plural network connections (Rao: col. 5, lines 8-24; col. 8, lines 53- col. 9, line 26) and a plural communication serial port coupled to peripheral devices (Rao: col. 5, lines 45-52), the control unit determining whether it is time to interrogate prior to performing the interrogation (Rao: col. 8, lines 53- col. 9, line 26); and

coupling the plural communication serial ports to one of the network connections based on the results of said step of interrogating the status of plural network connections (Rao: col. 8, lines 53- col. 9, line 26).

Regarding claim 41, a method as recited in claim 40 further comprising the steps of:

Art Unit: 2446

interrogating the status of plural computers respectively coupled to the network connections (Rao: col. 8, lines 53- col. 9, line 26); and

controlling the peripheral devices based on the results of said step of interrogating the status of plural computers (Rao: col. 8, lines 53- col. 9, line 26).

Regarding claim 42, a method as recited in claim 41, wherein said step of interrogating the status of plural network connections comprises detecting a carrier on each network connection (Rao: col. 8, lines 53- col. 9, line 26).

Regarding claim 44, a method as recited in claim 41, further comprising the step of maintaining a record of the status of each computer and each network connection in the control unit (Rao: col. 8, lines 53- col. 9, line 26).

Regarding claim 45, a method as recited in claim 41, further comprising the step of transferring status data between the computers at the direction of the control unit (Rao: col. 8, lines 53- col. 9, line 26).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable by U.S. Patent No. 6,850,531 by Rao et al in view of U.S. Patent No. 6,222,714 by Hoffman et al.

Regarding claims 21, the Rao reference teaches a computer architecture as recited in claim 20, with intelligent electronic devices. The Rao reference fails to teach controlling protective relays. However the Hoffman reference teaches wherein said intelligent electronic devices are protective relays (Hoffman: col. 7, lines 30-46) in order to provide digital signals to control the device (Hoffman: col. 7, lines 30-46).

It would have been obvious to one of ordinary skill in the art to create the system as taught by Rao to include the intelligent devices such as protective relays as taught by Hoffman in order to provide digital signals to a controller for controlling a device.

Claims 2-6, 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable by U.S. Patent No. 6,850,531 by Rao et al in view of U.S. Patent No. 6,591,314 by Colbath.

Regarding claim 2, the Rao reference teaches a multiple port unit as recited in claim 1, wherein said network ports are configured to couple the multiple port unit to plural computers and wherein said control unit is configured to interrogate each of the plural computers.

The Rao reference does not teach selecting an active computer.

However, the Colbath reference teaches selecting an active device based on link interrogation (Colbath: col. 1, lines 11-47) in order to select an input without user interaction (Colbath: col. 1, lines 25-30).

Art Unit: 2446

It would have been obvious at the time of the invention to one of ordinary skill in the art to create the unit as taught by Rao to include selecting an active computer for controlling as taught by Colbath in order to select an input without user interaction (Colgath: col. 1, lines 25-30).

Regarding claim 3, a multiple port unit as recited in claim 2, wherein said control unit interrogates the computers over each of the network links in an alternating manner (Rao: col. 27, lines 20-29).

Regarding claim 4, a multiple port unit as recited in claim 3, wherein said network ports comprise Ethernet ports (Rao: col. 5, lines 18-24).

Regarding claim 5, a multiple port unit as recited in claim 4, wherein said communication serial ports comprise serial ports (Rao: col. 5, lines 45-52).

Regarding claim 6, a multiple port unit as recited in claim 4, further comprising two redundant power supplies (Rao: col. 8, lines 24-25).

Regarding claim 8, wherein said control unit is configured to interrogate the computers using Internet Packet Groper (Rao: col. 9, lines 8-14).

Regarding claim 9, a multiple port unit as recited in claim 2, comprising two network ports and 8 communications ports (Rao: col. 5, lines 17-52).

Regarding claim 10, a multiple port unit as recited in claim 2, further comprising a data bus coupled to said control unit, said network ports and said communication serial ports (Rao: col. 6, lines 11-35).

REMARKS

Applicant has made no amendments and just presented arguments.

The Applicant Argues:

1) The Rao reference does not teach the limitations of claim 1.

In response, the examiner respectfully submits:

The examiner maintains the rejection because the Rao reference teaches the argued limitations.

Applicant argues the Rao reference doesn't teach "the plural network ports are configured to couple the multiple port unit to a computer."

Rao teaches a multiple port unit adapted for coupling one or more computers to multiple peripheral devices over a network (Rao: col. 4, lines 54-67; Fig. 1). The Rao switch is the unit and as Fig 1 shows the unit connects devices such as modems to other ports such as ethernet ports. The Rao reference teaches connecting devices and routing data between the devices (illustrated in Figures 5-7) in which addresses associated with devices are used in a table to send data between the computer devices (col. 31, lines 44-58). The Rao reference uses FM cards that allows routing of data and from different interfaces.

Rao teaches in the art one can "communicatively couple said communication serial ports to a selected one of said network ports based on the interrogation of the network links" (Rao: col. 8, lines 53- col. 9, line 26) by coupling devices for forwarding information based on the stored tables. These ports are coupled (communicatively connected) and able to route messages based on QoA and requests.

Rao teaches a "control unit to interrogate the network links" in col. 2, lines 40-49 in which management units monitors data and allocates resources based on failures and "the control unit further determining whether it is time to interrogate the links" where the messages are periodically sent to on intervals to check the status of links.

Further col. 4, lines 64- col. 5, line 17 that act as management or parent cards performing management functions. The Rao reference teaches interrogation of the links with hello packets to detect failure or non-responsiveness.

Applicant cites the instant applications specification. Applicant is reminded that the claims are read in light of the specification, but that the specification is not read into the claim limitations.

The 'hello messages' are periodically sent to interrogate the link for failure or non-responsiveness. This timed interval is substantially similar to applicant's specification page 9, lines 4-13 in which a PING, "respectively based on a predetermined interrogation period" to monitor the operating status of the links. The control unit would use the same time-determination because it checks at fixed length intervals.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Benjamin R. Bruckart whose telephone number is (571) 272-3982. The examiner can normally be reached on 9:00-5:30PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeff Pwu can be reached on (571) 272-6798. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2446

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Benjamin R Bruckart
Examiner
Art Unit 2446

/Benjamin R Bruckart/
Examiner, Art Unit 2446

/Jeffrey Pwu/
Supervisory Patent Examiner, Art Unit 2446